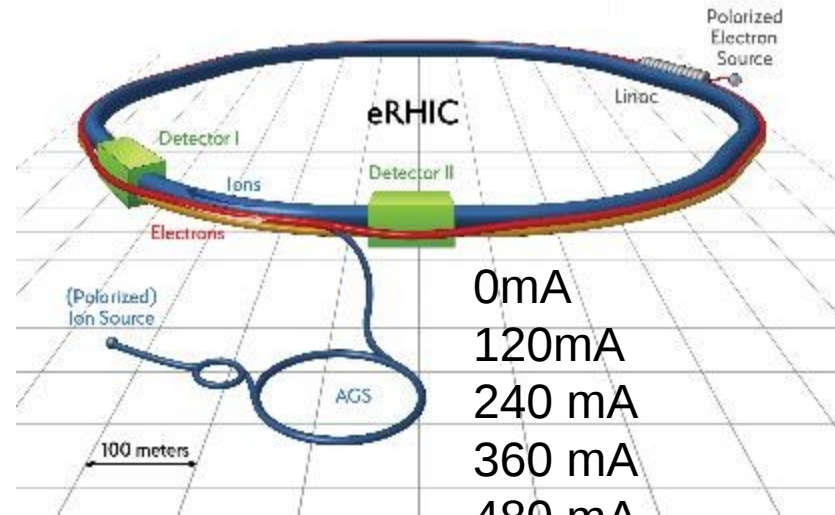


# APEX Schedule for April 06, 2017

08:00	<b>E-lens Related Beam Studies</b> Studiers: Xiaofeng, Wolfram, MCR, et al.	Store
12:00	<b>Spin Tune Meter</b> Studier: Peter, Haixin, Vahid, MCR, et al.	Inj.
16:00	<b>Back to Physics</b>	
17:00	<b>PHYSICS</b>	

# E-lens Related Beam Study

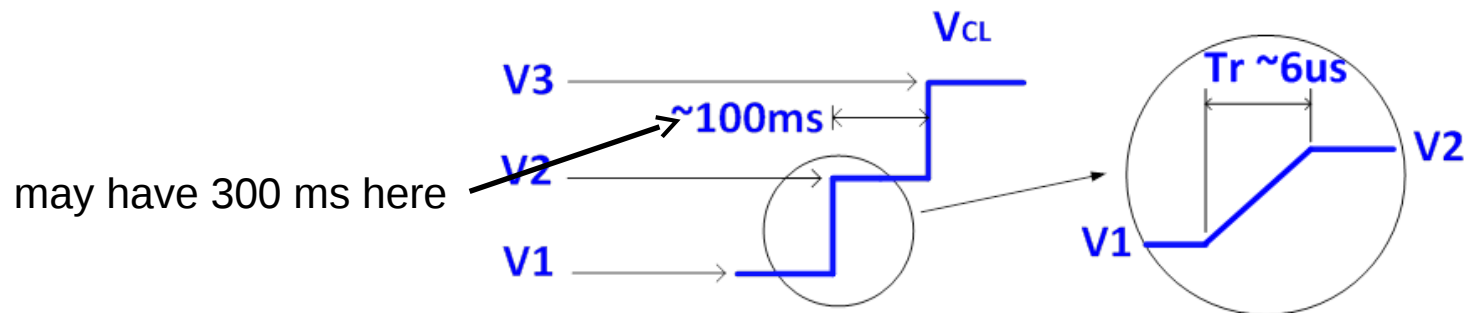
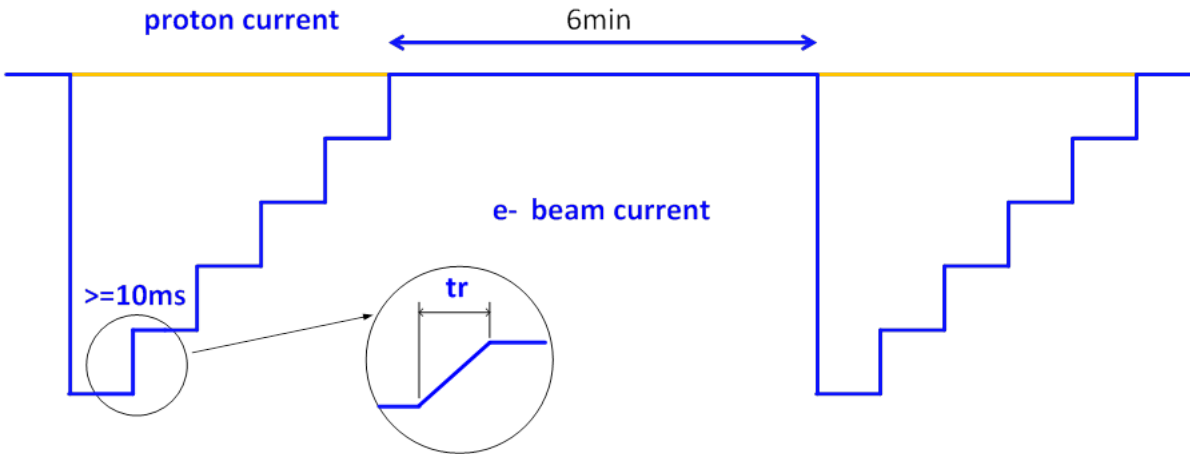
- RR version need bunch refilled every few min, possibly in several steps needed to maintain luminosity and good average polarization for bunches with the unstable polarization direction



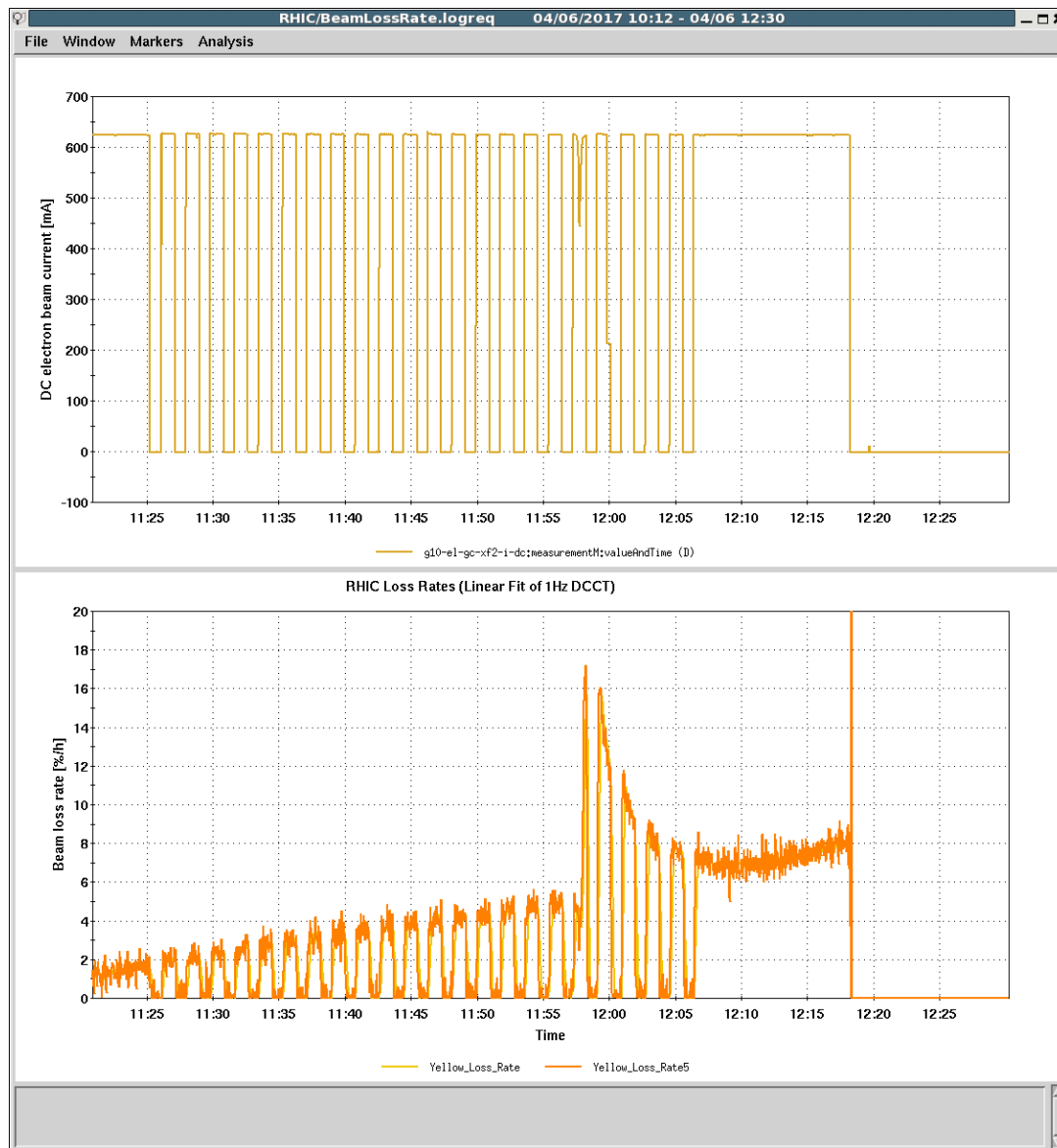
0mA  
120mA  
240 mA  
360 mA  
480 mA  
620 mA

200mS  
6 uS rising  
2 uS falling

2 days testing



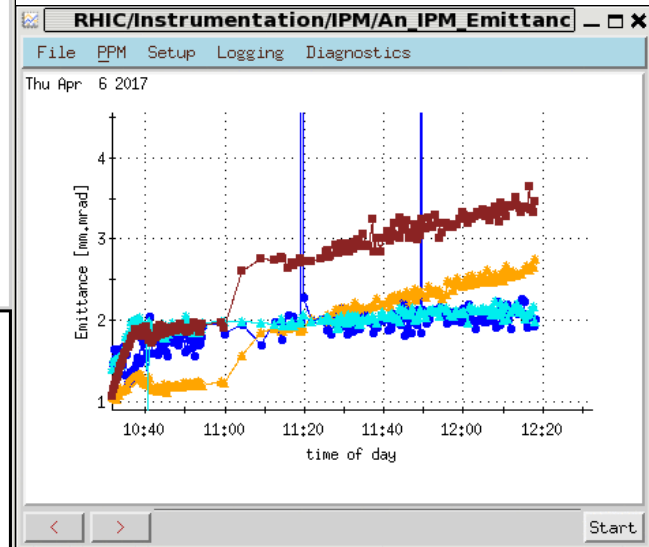
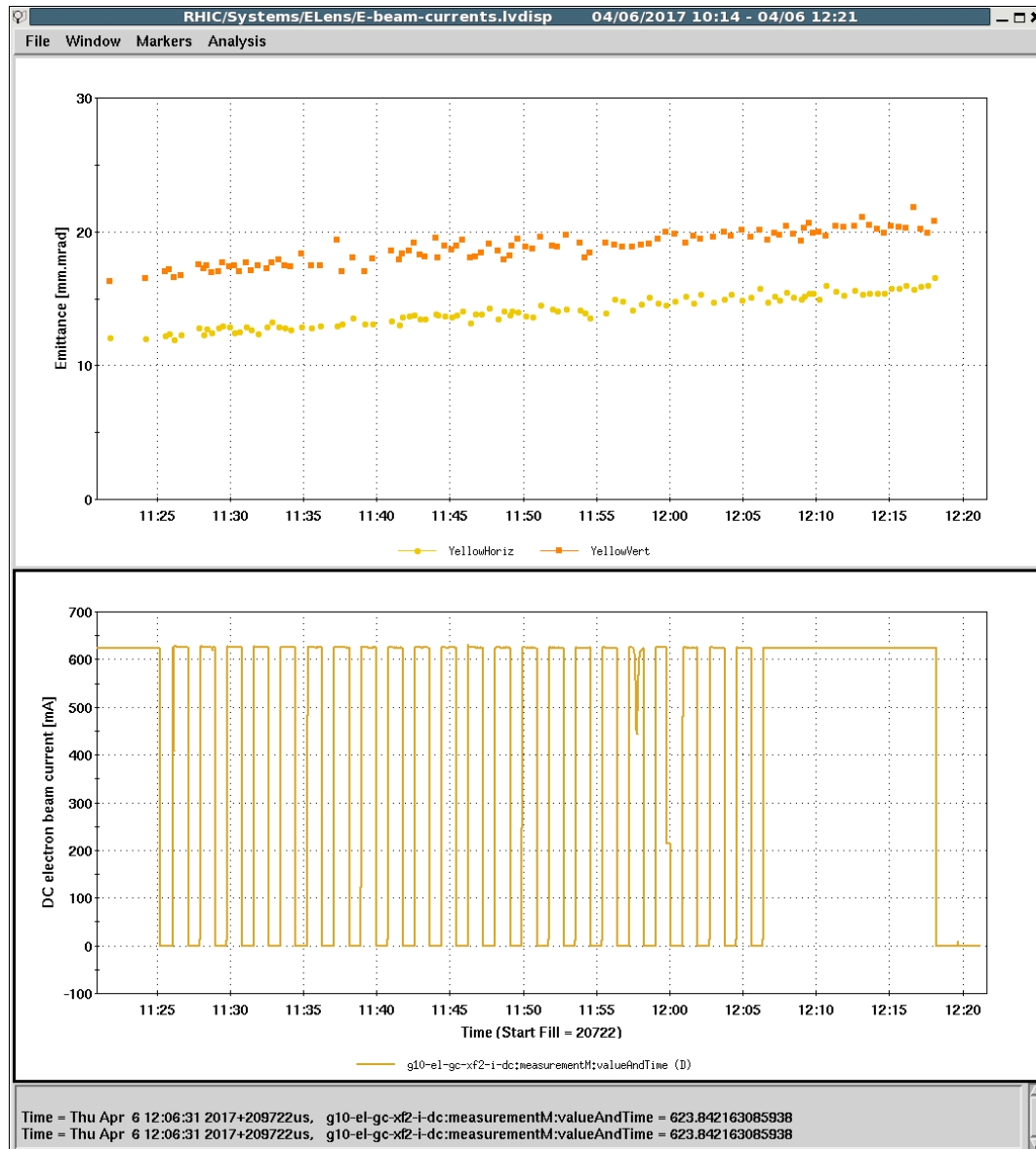
# Beam loss



22 simulated replacements

1 min on, 45 sec off

# Emittance

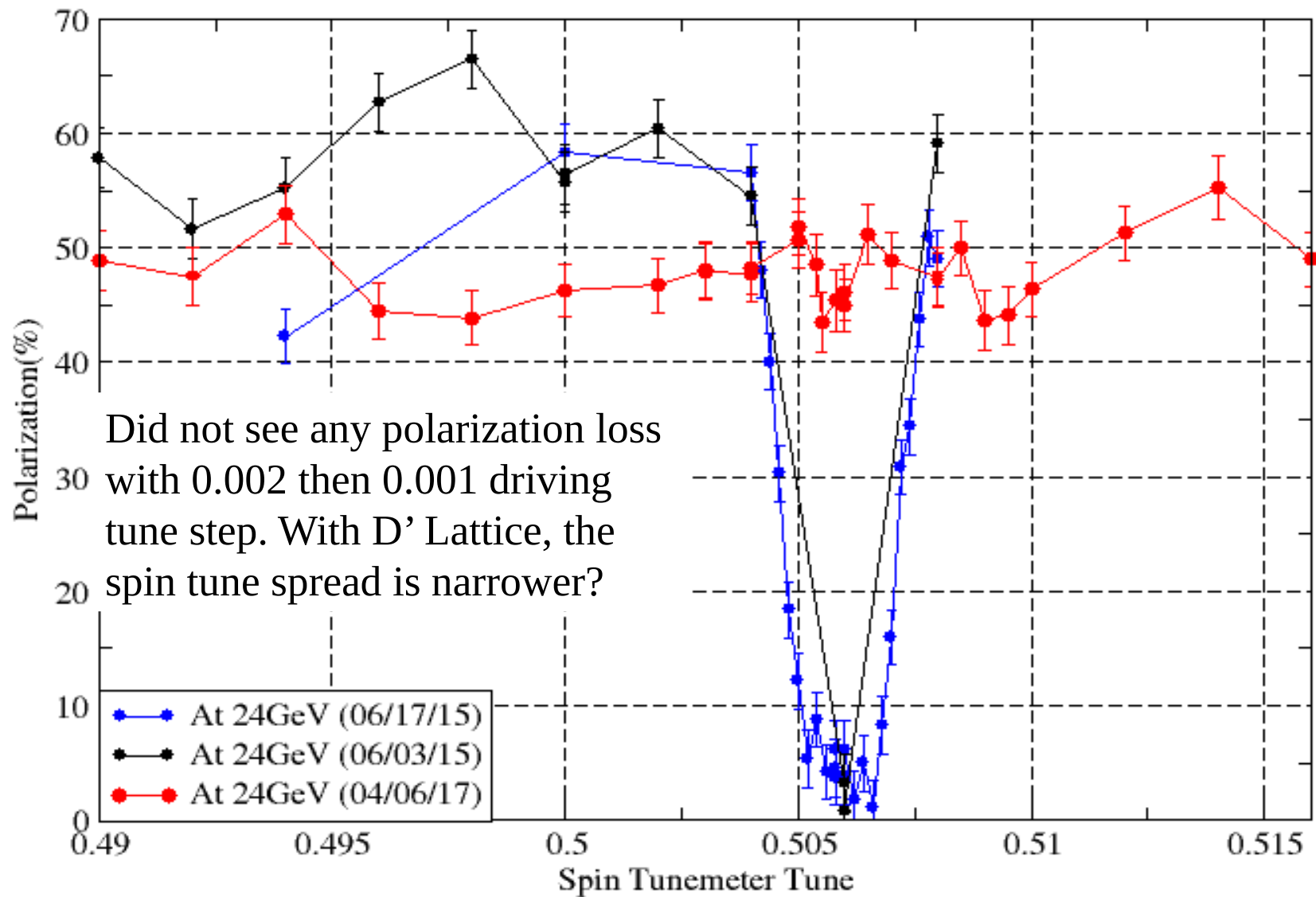


# Spin TuneMeter @ Injection

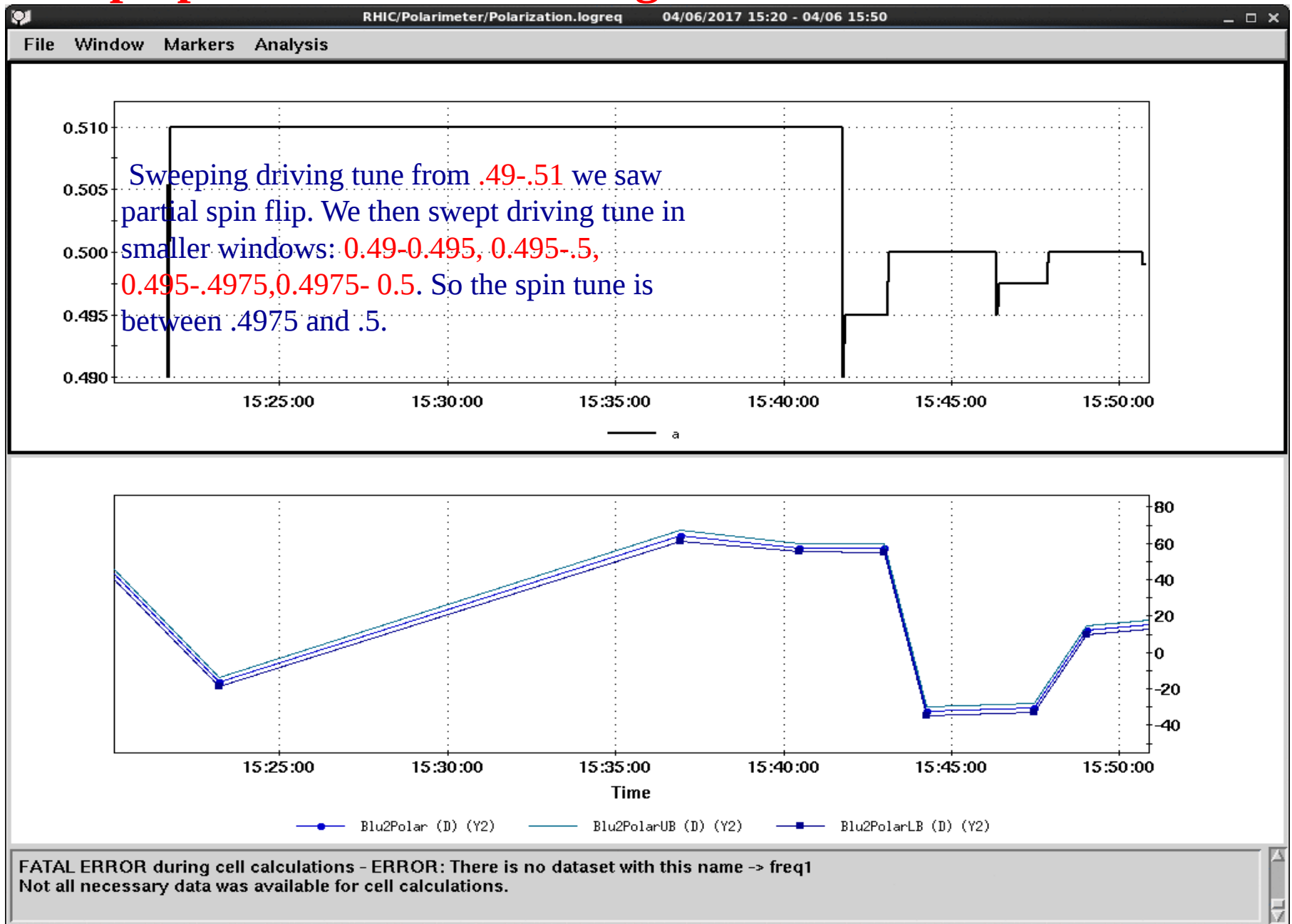
H. Huang, P. Oddo, C. Liu, A. Marusic, V. Ranjbar, B. Schmidke

April 7, 2017  
APEX Meeting

## Spin Tune Measurement at Injection (run15 and now)



# Sweep Spin Tunemeter Driving Tune Results



# Results

- We used D' matching (@ two snakes) lattice. The spin tunometer current was set at 900A and -26.5mm local bump was applied at 1225m. With this setting, we scanned the spin tunometer driving tune from 0.49-.514 with step of 0.002 then 0.001 for the part  $>0.50$ . We could not see any polarization dip.
- Then we tried sweep driving tune from .49 to .51 and saw partial spin flip. The spin tune is determined to be between .4975 and .5.
- The first set of TBT spin tune measurement data was taken with driving tune at 0.499. We noticed that the polarization quickly lost: 37%, 25%, 11% then 15%.
- We changed the driving tune to .498 and took additional seven runs with total of 420million events.
- These data will be analyzed.
- Carry-away message: D' matching lattice seems suppressed the spin tune spread. The injection spin tune is shifted to near 0.499 from 0.506 two years ago.
- For the future: the D' matching lattice will be implemented for ramp. We will measure spin tune again with sweeping method with narrower sweeping range to confirm the spin tune spread is indeed small.